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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,083	01/15/2002	Yasunao Miura	111674	2919
25944	7590	11/22/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			HOFFMANN, JOHN M	
			ART UNIT	PAPER NUMBER

1731

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/045,083

Applicant(s)

MIURA ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 September 2005 has been entered.

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andou 5952079 in view of Davidson 4776998, Chyung 4622057, and Kitagawa 4439929 and optionally in view of Hallier 3731036 and Inukai 5189273.

**4. (Previously Presented) A method of fabricating at least a ceramic honeycomb body including a multiplicity of cells, the cells having wall thicknesses of 0.125 mm or less, comprising drying at least an extrusion-molded argillaceous honeycomb body**

See **Andou**, abstract, figure 1, and col. 6, lines 20-30 and 40.

**by exposing the extrusion-molded argillaceous honeycomb body to a high-humidity ambience of not less than 70 % in humidity;**

Andou does not teach this. It is well known to have a humidity over 70% so as to avoid over-rapid drying, and consequent strains. See Davidson, col 3, lines 46-65. It

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would have been obvious to perform the Andou drying at a humidity over 70% so that the drying does not occur too quickly and create strains.

**and irradiating the extrusion-molded argillaceous honeycomb body with microwaves**

Andou does not disclose that the drying is with microwaves. Chyung teaches microwave drying is "required" to maintain configuration integrity (see paragraph bridging cols. 9-10 of Chyung). It would have been obvious to use microwave drying to prevent warping as disclosed by Chyung.

**having a frequency of 1,000 to 10,000 MHz;**

The frequency is not disclosed in Andou or Chyung. It would have been obvious to use routine experimentation to determine the optimal frequency. Alternatively, such a frequency is known for drying ceramic bodies (see Hallier, col. 1, lines 5-13). It would have been obvious to use a frequency of 2450 Mhz, because such is know to be effective at drying ceramics)

**wherein drying the extrusion-molded argillaceous honeycomb body is carried out by measuring a temperature of the extrusion-molded argillaceous honeycomb body and controlling supply of the microwaves in accordance with the measured temperature.**

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This is not disclosed. However, Davidson (col. 3, lines 50-55) suggests that under 100 C is a preferred temperature. It is well understood that higher temperatures result in quicker drying. For these reasons, temperature of drying is a result effective variable.

**2144.05 [R-1] Obviousness of Ranges**

See MPEP § 2131.03 for case law pertaining to rejections based on the anticipation of ranges under 35 U.S.C. 102 and 35 U.S.C. 102/103.

**II. OPTIMIZATION OF RANGES**

**A. Optimization Within Prior Art Conditions or Through Routine Experimentation**

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)

It would have been obvious to perform routine experimentation to determine the optimal temperature and/or temperature range for the drying. It would have been further to measure the actual temperature and increase power/microwave input if it is not high enough and to decrease the power/microwaves if the measured temperature is higher than the optimal temperature.

**during drying, the honeycomb body is placed on a conveyance tray having a porosity of not less than 10%.**

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Andou does not teach this. However, it is known to use such a tray so as to let drying air pass through (col. 3, lines 33-41 of Kitagawa) and/or eliminate the generation of localized high-moisture zones (col.4 lines 6-16 of Kitagawa). Inukai is optionally cited as showing microwave drying is a dielectric drying (col. 1, lines 15-21). It would have been obvious to use a porous tray during the drying, so as to get either of advantages that Kitagawa discloses.

Claim 2: see col. 3, lines 50-55 of Davidson. Such would have also been a matter of routine experimentation.

Claim 3: it is deemed that Davidsons RH of 70% is high humidity steam. It is deemed that the broadest reasonable interpretation of "steam" is any water vapor. And any value over 50% would be considered to be "high-humidity". Alternatively, it would have been obvious to perform routine experimentation to determine the optimal humidity of the Davidson air/steam.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andou 5952079 in view of Davidson 4776998, Chyung 4622057 and Kitagawa 4439929 and optionally in view of Hallier 3731036 and Inukai 5189273 as applied to claim 4, and further in view of Mason 3187574 or Darringer 4315150.

Andou does not teach a temperature monitoring device. Darringer and Mason discloses advantages of the presently claimed thermometer. It would have been obvious to use a Darringer or Mason thermometer to control/optimize the drying process for the well known advantages of these non-contact thermometers.

### ***Response to Arguments***

Applicant's arguments filed 30 September 2005 have been considered but are moot in view of the new ground(s) of rejection. As pointed out above, it is well known to use a porous tray to aid in drying of honeycomb bodies.

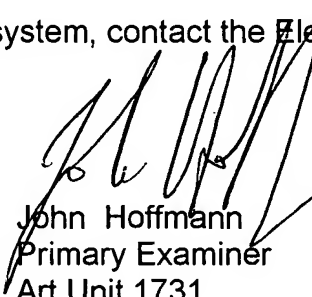
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John Hoffmann  
Primary Examiner  
Art Unit 1731

11-18-05

jmh